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In the Matter of )  
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Amendment of Subparts B and F, Part 90 ) **RM-8734**  
of the Commission's Rules to permit the )  
transmission of safety alert signals on )  
frequencies used for Non-Government )  
radar operations )

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To: The Commission

**COMMENTS**

The Georgia Tech Research Institute, hereby submits these comments, pursuant to FCC **Public Notice 60976** under the provisions of Section 1.4515 of the Federal Communications Commission's rules. The submission of these comments support the above-captioned Petition for Rulemaking and urge the prompt initiation of a Notice of Proposed Rulemaking in this proceeding.

**I. General**

Georgia Tech Research Institute is a non-profit Research Institute that is part of the Georgia Institute of Technology, located at 225 North Avenue, NW, Atlanta, GA 30332. Georgia Tech Research Institute has been involved in the development of the Safety Warning System under the sponsorship of The Radio Association Defending

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Airwave Rights Inc. (RADAR). In addition, Georgia Tech Research Institute is heavily involved in research and development related to highway design and safety. The communications protocol that allows communications between a roadside transmitter and motorist using radar detectors with message displays was developed by Georgia Tech Research Institute and as the developer of this technique we believe our comments on the issues involved are in order.

## **II. ADOPTION OF THE PROPOSED AMENDMENTS WILL SAVE LIVES**

The petition for rulemaking demonstrates that railroad crossings, work zones, police vehicles in pursuit, and other highway hazards account for many unnecessary traffic fatality causing accidents each year. The key to eliminating these needless deaths is better warning and earlier warning of the hidden dangers that the motorist can encounter. The aural cues provided by sirens, train whistles and railroad crossing bells all present a warning to the motorist that may be ignored or missed entirely in the modern vehicle developed for a “quieter ride”. The proposed Safety Warning System will allow warning messages to be presented on a display that is near to the driver and easily understood by the driver. The warning message can be received well in advance of the arrival of the vehicle in the danger zone. A message stating the exact source of danger is displayed to the driver which cues the driver to be alert for a the indicated danger. Each of these enumerated capabilities of the Safety Warning System is highly desirable and the additional warning capability is calculated to reduce fatalities among the motoring public each year.

**III. THE PROPOSED AMENDMENTS**  
**FOLLOW PRECEDENT AT THE COMMISSION**  
**TO USE RADIO FREQUENCIES TO INCREASE**  
**ROAD SAFETY**

The Federal Communications Commission has a long established history of allowing use of the radio frequency spectrum for motorist safety. During the early part of the 20th Century, police radio was first licensed for use in the low frequency part of the electromagnetic spectrum. During the period following World War II the development of radar made the operation of police Doppler radar in the S-band region possible. Later, as microwave devices became more economical, the Commission allowed operation of Police radar in the X-band region. As frequency generation device technology has improved during the intervening years, the Commission has approved the operation of police radars at higher and higher frequencies. In parallel with this precedent setting growth of use of the RF spectrum for highway safety the Commission has promoted the use of mobile communications technology in the Very High Frequency (VHF) and the Ultra-High Frequency (UHF) part of the radio spectrum. Only recently, the Commission has approved frequencies for the operation of automobile collision avoidance radars and automatic cruise control systems that transmit and receive signals while sensing the physical environment for safety purposes.

The subject Petition for Rulemaking provides for a further extension of the already established use of the radio frequency spectrum for the motoring public's safety. The Safety Warning Transmitter concept will allow, through use of the 24.1 GHz part of the electromagnetic spectrum, the transmission of motorist warning messages directly to the radar detectors that are located in a position in the automobile where they can not be

ignored by even the most casual driver. It is proposed that the Safety Warning Transmitter will utilize the band presently assigned to police radar and it is envisioned that the Safety Warning Transmitter function may even be included as part of a police radar to allow transmission of motorist warning messages when the police car is in pursuit or stopped by the side of the road working a wreck or other dangerous situation. Thus, it is not by accident that the portion of the radio frequency spectrum that is requested for use by the Safety Warning Transmitter is within the part of the spectrum very near to the assignment for police radar system. The Safety Warning Transmitter has a radar function built into the system to suppress signal emission until an approaching vehicle is detected. This feature supports the operation of the Safety Warning Transmitter in the portion of the spectrum normally reserved for radar applications. The low powered nature of the Safety Warning Transmitter ensures that it can co-exist with police radars without the fear of mutual interference under normal conditions.

#### **IV. CONCLUSION**

In Conclusion, the Commission is asked to consider and allow the amendments proposed in the Petition RM-8734 and to initiate a Notice of Proposed Rulemaking to ensure that the Safety Warning Transmitter concept can move forward into the deployment stage resulting in the improvement of public safety.

Respectfully Submitted,  
Georgia Tech Research Institute

By: 

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